IN THE CLAIMS:

Please amend claim 13, **and add** new claim 24, as shown on the complete list of claims that is presented below.

Claims 1-10 (cancelled).

11. (previously presented) The semiconductor device fabricating method of claim 13, wherein the fluorocarbon gas includes at least one selected from the group consisting of C_4F_8, C_5F_8, C_4F_6 and C_3F_6.

12. (previously presented) The semiconductor device fabricating method of claim 13, wherein the low-k film is one selected from the group consisting of an organic SOG film, an SiOC film and a pure organic film.

13. (currently amended) A semiconductor device fabricating method comprising the steps of:

forming a first interconnection;

forming a low-k film as an interlayer insulating film [[on]] over the first interconnection;

forming a contact hole for electrically connecting the first interconnection and a second interconnection, in the interlayer insulating film comprising the low-k film; and

forming an interconnection groove for embedding the second interconnection in the interlayer insulating film comprising the low-k film,

wherein, in at least one of the hole forming step and the interconnection groove forming step, plasma etching is conducted under a gas atmosphere including a fluorocarbon gas, O_2 gas and Ar gas, and under the conditions of a pressure of 60 mTorr (7999.32 mPa) or higher and a high-frequency output (RF power) of 600 W or less, and

wherein an etch stop layer is not formed in ~~or under~~ the interlayer insulating film comprising the low-k film.

14. (previously presented) The semiconductor device fabricating method of claim 13, wherein a ratio of O_2 to a combined amount of the fluorocarbon gas and O_2 is 20 to 50%.

15. (previously presented) The semiconductor device fabricating method of claim 13, wherein, in both of the hole forming step and the interconnection groove forming step, plasma etching is conducted under a gas atmosphere including a fluorocarbon gas, O_2 gas and Ar gas, and under the conditions of a pressure of 60 mTorr (7999.32 mPa) or higher and a high-frequency output (RF power) of 600 W or less.

16. (previously presented) A method for fabricating a semiconductor device, comprising the steps of:

(a) forming a layer having an interconnection element in it;

(b) depositing a diffusion preventing film on the layer formed in step (a);

(c) depositing a low-k interlayer insulating film on the diffusion preventing film, wherein the interlayer insulating film does not include an etch stop layer;

(d) conducting a first etching procedure to form a via hole that extends through the interlayer insulating film but not through the diffusion preventing film; and

(e) conducting a second etching procedure to form an interconnection groove that intersects an upper portion of the via hole, the second etching procedure additionally extending a bottom portion of the via hole through the diffusion preventing film and to the interconnection element,

wherein at least one of the first and second etching procedures comprises plasma etching conducted under a gas atmosphere including a fluorocarbon gas, O_2 gas and Ar gas, and under the conditions of a pressure of 60mTorr (7999.32 mPa) or higher and a high-frequency output (RF power) of 600 W or less.

17. (previously presented) The method of claim 16, wherein the diffusion preventing film deposited in step (b) is a first diffusion preventing film, and further

comprising depositing a second diffusion preventing film on the interlayer insulating film and depositing a photoresist film on the second diffusion film before step (d) is conducted.

18. (previously presented) The method of claim 17, wherein the first etching procedure etches an aperture through the second diffusion preventing film, and further comprising depositing another photoresist film on the second diffusion preventing film before step (e) is conducted.

19. (previously presented) The method of claim 16, wherein the fluorocarbon gas includes at least one gas selected from the group consisting of C_4F_8, C_5F_8, C_4F_6, and C_3F_6.

20. (previously presented) The method of claim 16, wherein the low-k film is selected from the group consisting of an organic SOG film, an SiOC film, and a pure organic film.

21. (previously presented) The method of claim 16, wherein a ratio of O_2 to a combined amount of the fluorocarbon gas and O_2 is 20 to 50%.

22. (previously presented) The method of claim 16, wherein both of the first and second etching procedures comprise plasma etching conducted under a gas atmosphere including a fluorocarbon gas, O_2 gas and Ar gas, and under the conditions of a pressure of 60mTorr (7999.32 mPa) or higher and a high-frequency output (RF power) of 600 W or less.

23. (previously presented) The method of claim 16, wherein the diffusion preventing film deposited in step (b) is a silicon nitride film.

24. (new) The method of claim 13, further comprising the step of forming a diffusion prevention film on the first interconnection before conducting the step of

forming a low-k film as an interlayer insulating film over the first interconnection, and wherein an etch stop layer in not formed between the interlayer insulating film and the diffusion prevention film.